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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/043,104	01/14/2002	David J. Corisis	M4065.0317/P317-B	7226
24998	7590	04/22/2004	EXAMINER	
DICKSTEIN SHAPIRO MORIN & OSHINSKY LLP			KEBEDE, BROOK	
2101 L STREET NW			ART UNIT	
WASHINGTON, DC 20037-1526			PAPER NUMBER	

2823

DATE MAILED: 04/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Applicant(s)

10/043,104

Applicant(s)

DAVID J. CORISIS

Examiner

Brook Kebede

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 January 2004.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 12-16 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 12-16 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “said edge including a first cut portion and a second broken portion comprising a sheared portion,” as recited in claim 12, must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 12-16 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 12 recites the limitation “said edge including a first cut portion and second broken portions comprising a sheared portion” in lines 3-4. However, there is no support for “edge including a first cut portion and second broken portions comprising a sheared portion” in the specification as originally filed. Therefore, the claim contains the subject matter which was

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not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 13-16 are also rejected as being dependent of the rejected independent base claim.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 12 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by anticipated by Yamaoka (JP/10064854).

Re claim 12, Yamaoka teaches a semiconductor package comprising: a substrate (54) having an upper surface, a lower surface, and an edge region disposed between said upper and lower surfaces, said edge including a first cut portion and a second broken portion comprising a sheared portion (see Drawing 7).

Re claim 13, as applied in claim 12 above, Yamaoka teaches all the claimed limitations including the limitation wherein said cut portion further comprises a sawn portion (see Drawings 1-7).

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaoka (JP/10064854) in view of Nishino et al. (US/6,010,384).

Re claim 14, as applied in claim 12 above in Paragraph 3, Yamaoka teaches all the claimed limitations. However, Yamaoka does not specifically teach wherein said cut portion further comprises a scribed portion.

Nishino et al. disclose the method of packaging of a semiconductor device having a cut portion which comprises a scribed portion (Col. 1, lines 40-44). As Nishino et al. disclose the scribe line (portion) is extended perpendicular to the substrate in order to singulate each chip without generating cut defects (see Abstract).

Both Yamaoka and Nishino et al. teachings are directed to dicing of plurality of semiconductor chips formed on a single base substrate and packaging of the chips. Therefore, the teachings of Yamaoka and Nishino et al. are analogous. It would have been within the scope of one of ordinary skill in the art to combine the teachings of Yamaoka and Nishino et al. to enable formation of the cut portion by providing scribe as taught by Nishino et al. because one of ordinary skill in the art would have been motivated to look to analogous art teaching an alternative suitable or useful method to singulate semiconductor die using scribe lines as the art recognized its suitability for intended purpose.

8. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaoka (JP/10064854) in view of Yamada et al. (US/6,010,384).

Re claim 15, as applied in claim 12 above in Paragraph 3, Yamaoka teaches all the claimed limitations. However, Yamaoka does not specifically teach wherein said cut portion further comprises a chemically etched portion.

Yamada et al. disclose teach forming cut portion that etched by chemical. (See abstract).

It would have been within the scope of one of ordinary skill in the art to combine the teachings of Yamaoka and Yamada et al. to enable formation of the cut portion.

9. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaoka (JP/10064854) in view of Wakashima et al. (US/6,010,384).

Re claim 16, as applied in claim 12 above in Paragraph 3, Yamaoka teaches all the claimed limitations. However, Yamaoka does not specifically teach wherein said cut portion further comprises a milled portion.

Wakashima et al. disclose providing a cut portion by milling the substrate to create a mill portion (see Col. 32, lines 18-20).

It would have been within the scope of one of ordinary skill in the art to combine the teachings of Yamaoka and Wakashima et al. to enable formation of the cut portion by milling the substrate.

#### ***Response to Arguments***

10. Applicant's arguments with respect to claims 12-16 have been considered but are moot in view of the new ground(s) of rejection that was necessitated by the amendment filed on January 27, 2003.

Since the instant application does not specifically disclose "edge region disposed between said upper and lower surfaces, said edge including a **first cut portion and a second broken**

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portion comprising a sheared portion” in the specification and the drawing as originally filed, applicant’s argument pertaining the limitation edge including a first cut portion and a second broken portion comprising a sheared portion is moot in view of the objection that is set forth under 35 U.S.C. 132 and the rejection under 35 U.S.C. 112, first paragraph in Paragraphs 2 and 4 respectively herein above.

### *Conclusion*

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

12. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

### *Correspondence*


13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brook Kebede whose telephone number is (571) 272-1862. The examiner can normally be reached on 8-5 Monday to Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri can be reached on (571) 272-1855. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BK  
April 12, 2004

  
George Fourson  
Primary Examiner